

Claims:

1. A processor comprising:

5 a process chamber;

a door system for opening and closing the process chamber, with the door system comprising:

10 a mounting plate having first and second legs joined on opposite sides of a center section having a height H , with at least one of the first and second legs having a height less than H ;

an actuator on the mounting plate; and

15 a seal plate attached to the actuator and moveable by the actuator to engage the process chamber to close the process chamber, and with the seal plate moveable by the actuator away from the process chamber, to open the process chamber.

2. The processor of claim 1 further comprising a cover attached to the mounting plate and covering the first and second legs and the center section of the mounting plate.

3. The processor of claim 1 further comprising a door position sensor attached to the
20 first leg of the mounting plate.

4. The processor of claim 1 further comprising a first lift actuator attached to the first leg of the mounting plate and a second lift actuator attached to the second leg of the mounting plate.

5. The processor of claim 4 wherein the first and second lift actuators each have a piston moveable within a cylinder and magnetically coupled to a piston follower outside of the cylinder, and with the piston follower of the first lift actuator attached to the first leg of the mounting plate, and with the piston follower of the second lift actuator attached to the second leg of the mounting plate.

6. The processor of claim 1 where the center section of the mounting plate is circular.

7. The processor of claim 6 where the height of the first leg is less than 80% of the height of the center section.

8. The processor of claim 7 where the height of the first leg is less than 60% of the height of the center section.

9. The processor of claim 2 where the process chamber has an open front end and wherein the cover covers the open front end of the chamber.

10. The processor of claim 2 where the cover comprises a cosmetic cover and does affect operation of the door system, so that the cover can be removed to view and adjust operation of the door system.

5 11. A processor for processing a workpiece, comprising:
a process chamber having an open front end;
a door system for closing off the open front end of the process chamber, during processing, with the door system including:
a door plate assembly having a mounting plate, a chamber closure plate, a chamber closure plate actuator on the mounting plate linked to the closure plate, for engaging and disengaging the closure plate with the open front end of the process chamber, and a cover covering the mounting plate and the closure plate; and
at least one door plate assembly lift actuator attached to the mounting plate.

10 12. The processor of claim 11 wherein the mounting plate has a pair of legs attached to a center section.

15 13. The processor of claim 12 where at least one of the legs has a vertical dimension H and the center section has a vertical dimension D, and where H is less than D.

20 14. The processor of claim 11 wherein the at least one door plate assembly lift actuator comprises a piston in a cylinder magnetically linked to piston follower outside of the cylinder, and with the mounting plate connected at least indirectly to the piston follower.

15. The processor of claim 12 further comprising a door plate assembly lift actuator connected to each of the legs of the mounting plate.

5 16. The processor of claim 11 further comprising a chamber closure position sensor on the mounting plate and covered by the cover plate.

17. The processor of claim 11 wherein the cover plate covers the open front end of the process chamber.

10 18. The processor of claim 12 wherein the chamber closure plate actuator is annular and the center section of the mounting plate is annular and concentric with the chamber closure plate actuator.

15 19. The processor of claim 18 wherein at least one of the legs has a vertical dimension H and the center section has a diameter D which is greater than H.

20. A processor for processing a workpiece, comprising:

a process chamber having an open front end;

20 a door means for closing off the open front end of the process chamber, during processing, with the door means including a chamber closure plate, means for engaging and disengaging the chamber closure plate with the open front end of the process chamber, alignment means for aligning the chamber closure plate with the open front end

of the process chamber and for moving the chamber closure plate away from the open front end of the process chamber, and a cover covering the means for engaging and disengaging, and with the means for engaging and disengaging operable with or without the cover in place.

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21. A system for processing a workpiece, comprising:
- an interface section and a process section within an enclosure;
 - a process robot moveable between the interface section and the process section;
 - at least one workpiece processor in the process section, with the workpiece processor comprising:

- a process chamber having an open front end;

- a door system for closing off the open front end of the process chamber, during processing, with the door system including:

- a door plate assembly having a mounting plate, a chamber closure plate, a chamber closure plate actuator on the mounting plate linked to the closure plate, for engaging and disengaging the closure plate with the open front end of the process chamber, and a cover attached to the mounting plate and covering the mounting plate and the closure plate; and

- at least one door plate assembly lift actuator attached to the mounting plate.

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22. A method for adjusting alignment of a door assembly used to seal off a process chamber during processing of a workpiece with liquids, gases or vapors, comprising the steps of:
- removing a cover from the door assembly;

inspecting the fit of a chamber closure plate at least one side of the process chamber, behind a mounting plate of the door assembly;

adjusting the position of the chamber closure door assembly relative to the process chamber; and

5 reinstalling the cover of the door assembly.

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